

## An AGCM study on precipitation anomalies associated with Ningaloo Nino

TOZUKA, Tomoki<sup>1\*</sup> ; KATAOKA, Takahito<sup>1</sup> ; YAMAGATA, Toshio<sup>2</sup>

<sup>1</sup>The University of Tokyo, <sup>2</sup>Application Laboratory, JAMSTEC

Ningaloo Nino (Nina) is a recently identified climate mode associated with positive (negative) sea surface temperature (SST) anomalies off the west coast of Australia and wet (dry) anomalies in the northwestern part of Australia. However, previous studies could not isolate its influences based on statistical analyses of observational precipitation data, because the precipitation over Australia is also influenced by tropical climate modes such as El Nino/Southern Oscillation and the Indian Ocean Dipole. Based on a series of experiments with an atmospheric general circulation model, we have examined whether Ningaloo Nino/Nina alone can induce precipitation anomalies. It is shown that even when SST is allowed to vary interannually only in the eastern South Indian Ocean and the monthly climatology of SST is imposed elsewhere, Ningaloo Nino (Nina) induces wet (dry) anomalies in the northwestern part of Australia.

Keywords: Ningaloo Nino, Precipitation, Atmospheric General Circulation Model, El Nino/Southern Oscillation